index 2004

Subject

21st century science, GCSE science, 90C, 142C

Acid–base chemistry, 18
Addition across C–C double bond, Markovnikov Rule, 47
Agre, Peter, Nobel prizewinner, 6C
AimHigher project, 88C, 115C
A-level chemistry investigations, ideas for, 66L
Aluminium–iodine reaction, demonstration, 94
Ammonium nitrate, 89C, 161
Analytical chemistry, dyes, 41, 107
Analytical chemistry, ice cores, 132
Analytical chemistry, urine tests, 76
Antabuse, soundbite, 8C
Antarctica, ice formation, 132
Anthraquinones, dye compounds, 40
Antioxidants in foods, carotenoids, 21
Arsenic, syphilis treatment, 163
As if by chance, 35C
Atmospheric chemistry, 101, 131

Bannon, Liliana, Salters' Chemistry Teacher, 3C
Barium hydroxide and ammonium chloride reaction, demonstration, 39, 105
Baroplastics, mouldable, 53
Beagle 2, Mars lander, 12
Belt, Simon, RSC HE award winner, 34C
Bhunjun, Anubha, Salters' Chemistry Teacher, 3C
Blood substitutes, development of, 95
Blue baby syndrome, nitrate(v), 44
Blue pigments, 106
Book reviews
  Analytical chemistry, undergraduate, 139
  Applied science, GCSE, 82
  Calcium and biochemistry, general, 83
  Chemical discoveries, general, 111
  Chemical ecology, general, 27
  Chemical education, 55, 139, 166
  Chemistry, GCSE, 111
  Chemistry of everyday substances, 83
  General chemistry, undergraduate, 54
  Geochemistry, undergraduate, 82
  Green chemistry, undergraduate, 83
  Inorganic chemistry, undergraduate, 111
  Mathematics, undergraduate, 54
  Metal complexes, A-level, 139
  Organic chemistry, undergraduate, 54, 82, 83, 166
  Plastics industry, A-level, 27
  Science, GCSE, 166
  Science in everyday life, general, 55
  Science, Key Stage 3, 54, 82, 111
  Spectroscopy, undergraduate, 139
  Statistical thermodynamics, 27
  Uncertainty in science, general 55
Boron nitride, cosmetics ingredient, 61C
Bridgeman, Adam, RSC HE award winner, 116C
Byers, Bill, RSC tertiary education award, 7C

Calorimetry, students' understanding of, 26
Cancer drugs, soundbite, 32C
Cancer treatment, photodynamic therapy, 71
Carbon nanofoams, magnetic properties, 110
Carotenoids, functions in the body, 21
Cativa process, ethanoic acid production, 152
Cement, 126
Challenging Misconceptions in the Classroom, RSC project, 79
Chemical concepts, 36C
Chemical education research, validity of, 10L
Chemistry demonstrations, 11, 39, 67, 94, 122, 151
Chemistry – the next generation, outreach initiative, 88C, 115C
Chemistry trails, 33C, 119C
Chemlingo, 91C, 147C
Chirality, drug action, 123
Chubb, Janice, RSC schools education award winner, 144C
Climate change, 101, 132
Cochineal, red dye source, 40
Continuing professional development, 90C
Corrosion, 150L
Cosmetics, surfactants role in, 78
Coursework, administration of, 66L
Custard bomb, demonstration, 155
Cyclohexane, chair conformation, 52

Degenerative diseases, prevention of, 22
Dissolution, endothermic reaction, 104
Distillates, chemical education, 26, 81, 138
Distillates, chemistry, 53, 110, 165
Drebbel, Cornelius, 68
Drugs in sport, methamphetamine, 123
Dyestuff chemistry, 40, 71, 75, 106
Dyson Perrins Laboratory, Oxford, National Historical Chemical Landmark, 145C

Ehrlich, Paul, syphilis treatment, 163
Element 113, synthesis of, 61C
Element 115, synthesis of, 61C
Element, definition of, 140
Endothermic reactions, demonstrations, 39, 104
Eurobachelor degree, 145C
Explosives, 89C, 155, 159

Flavonoids, dye compounds, 40
Formative assessment, 120C, 138
Formulation chemistry, 77
Freund, Ida, 136

GCSE Science, 2006 revision of, 32C, 62C, 142C
GCSEs in science, Specialist Schools Trust report, 90C
Gemstones, 33C
Green chemistry, 152
Gunpowder, 159
Guy, Adrian, Salters' Chemistry Teacher, 3C

Haemoglobin, chemistry of, 95
Hair conditioner, surfactants role in, 77
Harbinson, Terry, RSC schools education award winner, 144C
Heather, flavone-containing dye source, 43
HE chemistry, issues affecting uptake, 2C, 88C
HEFCE, AimHigher project, 88C, 115C
HEFCE, funding for chemistry departments, 86C
HEFCE, Research Assessment Exercise, 60C, 143C
Hersey, Tim, RSC schools education award winner, 144C
History of chemistry, anti-TB drugs, 15
History of chemistry, blue pigments, 106
History of chemistry, discovery of oxygen, 68
History of chemistry, Joseph Priestley, 98
History of chemistry, uses of urine, 74
History of chemistry, Vladimir Markovnikov, 47
History of chemistry, women in chemistry, 136
Hyroxyl radical, atmospheric formation of, 102

ICT, use in science lessons, 81
Ideas and evidence, National Curriculum Science, 84
Indigoids, dye compounds, 40
Infochem
  Click chemistry, synthetic method, no 88
  Dynamic combinatorial chemistry, no 88
  LSD, truth drug, no 86
  Molecular gastronomy, no 89
  Paper preservation, no 85
  Platinum group metals, no 90
  Titanium, production of, no 87
Insect repellent, natural compounds, 110
Investment in science, 59C, 86C
Ion transport in cells, Nobel prize for chemistry, 6C
Isomerism, 121L, 123
Isoniazid, anti-TB drug, 17
Isoprene, role as atmospheric pollutant, 101

Junk science, 52, 65L

Key Stage 2 science SATs, schools' preparations for, 81
Khat, soundbite, 63C
Kipping, F., silicones development, 62C

Lab-on-a-chip, 110
Lanthanides, 119C
Lavoisier, Antoine, 98
Lipsomes, 118C
Lipstick, Product review, 7C
Logic sequencing, teaching approach, 150L

MacKinnon, Roderick, Nobel prizewinner, 6C
Magnesium–silver nitrate reaction, 5C, 65L, 93L
Magnetic materials, transparent, 53
Make it molecular, outreach project, 131
Making maths count, HM Treasury report, 59C
Markovnikov Rule, 49
Mars, chemistry of, 12
Materials science, cement and concrete, 126
Mathematics, teaching of, 56, 59C, 65L
Mendeléev, Dmitri, 28, 140
Mercury, syphilis treatment, 162
Methaemoglobinaemia, nitrate(v), 44
Methane bubbles, demonstration, 67
Methylene blue, blue baby syndrome treatment, 46
Mole, chemical concept, 36C
Molecular machines, 110
Molecular model, cyclohexane, 52
Molecular models, students' understanding, of, 138
Molecular sieves, 53
Monsanto process, ethanoic acid production, 152
MRI, Nobel prize for medicine, 6C

National Science Learning Centre, 8C
Natural pollutants, 101
Neural development, affect on learning chemistry, 112
Newnham College, Cambridge, 136
Nitrate(v), effects on the body, 44
Nitroglycerine, 160
Nobel, Alfred, development of explosives, 160
Nobel prize, chemistry, 6C

Olympiad competition, 115C
Outreach activities, 2C, 88C, 115C, 130, 168
OUTV guide, 25
Oxidation numbers, teaching of, 121L
Oxygen, discovery of, 68
Oxygen, oxidation number in ozone, 121L

Para-aminosalicylic acid, anti-TB drug, 16
Particle model of matter, students' ideas, 10L
Perflubron, perfluorinated compound, 97
Perfluorinated compounds, biomedical applications of, 97
Periodic Table, 28, 156
pH scale, 18
Phase change, endothermic reaction, 104
Phlogiston theory, 99
Photodynamic therapy, applications of, 71
Phthalocyanines, blue pigments, 108
Portland cement, chemistry of, 128
Post-16 chemistry, factors affecting uptake, 58C, 112
Potassium chlorate(v)–sugar reaction, demonstration, 151
Potassium manganate(vii)–glycerol reaction, demonstration, 122
Priestley, Joseph, 70, 98
Product review, 7C, 61C, 118C
Protoporphyrin, photosensitiser, 73
Prussian blue, uses of, 10L

Quercetin, flavonol-containing dye, 42

Recombinant haemoglobin, sources of, 96
Research Assessment Exercise, 60C, 143C
Robertson, Douglas, Salters' Chemistry Teacher, 3C
Rosemary, soundbite, 146C
Rotary evaporator, computer simulation, 53
RSC, AimHigher bid, 88C, 115C
RSC, assessment workshop, 120C
RSC, Campaign for Chemical Sciences, 30C, 58C, 59C, 86C, 93L, 114C
RSC, Chemistry Week, 4C
RSC, Exemplarchem awards, 9C
RSC, factors affecting post-16 chemistry uptake, 58C
RSC, HE teaching award, 34C, 116C
RSC, National Historical Chemical Landmark, 62C, 145C
RSC, Olympiad team, 115C
RSC, outreach workshop, 88C
RSC, refurbishment costs of labs in schools and colleges, 60C, 87C
RSC, report on teacher qualifications, 60C, 87C
RSC, response to Comprehensive Spending Review, 114C
RSC, Schools Education Award, 144C
RSC, sponsored tertiary education award, 7C
RSC, Top of the Bench winners, 87C
RSC, *Voice of the future*, 59C

Salters' Chemistry Teacher, 2003, 3C
Salvarsan, syphilis treatment, 164
Scheele, Carl Wilhelm, 70, 98
Science and innovation: working towards a 10-year investment plan, 59C, 86C
Science and the public, 130
Science curriculum, students' views, 31C
Science GCSE courses, teachers' views, 90C
Science in society, 59C
Science investigations, students' discussions, 81
Scientific biographies, accuracy of, 26
Sendivogius, Michael, 68
Shampoo, surfactants role in, 77
Smith, David, RSC HE award winner, 116C
Sodium–chlorine reaction, demonstration, 11
Software reviews
  Metals in the environment, 27
Sörensen, Sören, 19
Soundbite molecules, 8C, 32C, 63C, 89C, 146C
Stainless steel, As if by chance, 35C
Standards Unit, improving post-16 chemistry teaching, 90C
Stoichiometry, teaching exercise, 150L
Student review of the science curriculum, NESTA report, 31C
Superconductors, Nobel prize for physics, 6C
Superfluids, Nobel prize for chemistry, 6C
Surfactants, functions of, 77
Sykes, Peter, 33C, 121L
Syphilis, treatment of, 162

Tartan, dyes for, 40
Teaching chemistry, avoiding misconceptions, 79
Teaching chemistry, value of museum demonstrations, 84
Tetrahedral bond angle, calculation, 38L, 150L
Trinitrotoluene, 161
Tuberculosis, treatment of, 15

Undergraduate chemistry department closures, 86C, 93L
Undergraduate chemists, declining numbers, 2C
Undergraduate experiment, copper phthalocyanine, 108
University funding, student bursaries, 31C
University of Nottingham, National Historical Chemical Landmark, 62C
Urine, chemical composition of, 74

Van Praag, Gordon, 9C
Volatile organic compounds, atmospheric pollutants, 101

Water, nitrate(v) concentrations, 44
Web watch, 24, 52, 64C, 100, 135,
Widening participation in HE, 22C, 88C, 115C, 168
Women in science, 26

Ziegler–Natta catalysts, polyethene production, 153

Key
C – Column, L – Letter to the editor

Authors

Badger, P., 65L
Baker, C., 11, 39, 67, 94, 122, 151, 159
Barker, N., 66L
Barton, L., 150L
Battino, R., 106
Battistini, A., 162
Bensted, J., 126
Berry, M., 9C
Birtles, D., 155
Borrows, P., 33C, 93L, 119C
Bradley, D., 6C, 53, 110, 165
Brown, T. M., 15
Cardinali, M. E., 51
Chapman, L., 38L
Childs, P. E., 35C, 74, 91C, 147C
Cockcroft, L., 66L
Coleman, N. J., 126
Coles, M., 5C
Cooksey, C. J., 47, 106
Cotton, C., 8C, 32C, 61C, 63C, 65L, 89C, 123, 146C
Dickson, N. J., 38L, 66L, 150L
Dronsfield, A. T., 15, 47, 68, 106, 136, 150L, 162
Ellis, P. M., 15, 162
Emsley, J., 7C, 61C, 118C
Erduran, S., 84
Faulks, R. M., 21
Faust, B., 44
Flood, W., 24, 52, 64C, 100, 112, 149C
Garnier, D., 101
Gibson, P., 93L
Gilpin, A., 121L
Giomini, C., 51, 121L
Griffiths, J., 71
Hargreaves, T., 77
Hill, M., 68, 136
Hoppé, J., 121L
Jaspars, M., 5C
Jones, G., 130
Kean, S., 93L
Kenny, S., 5C
Kind, V., 36C
Knight, D., 98
Laing, M., 28, 65L, 140
Lancaster, M., 152
Letcher, T. M., 104
Lister, T., 93L
Lowe, K., 95
Marrosu, G., 51, 121L
Matharu, A., 4C
Maunder, M., 10L
May, P., 56
Moss, K., 168
Nicholson, J. W., 18
Parkinson, J., 26, 81, 138
Pinto, G., 150L
Plesch, P. H., 38L
Quye, A., 40
Rayner-Canham, G., 65L, 101
Rayner-Canham, M., 65L
Rollin, A., 68
Samson, J., 38L
Sivan, Y., 150L
Stewart, P., 156
Stirling, R., 101
Taber, K., 10L, 79
Tóth, Z., 10L
Walker, N., 65L
Wolff, E., 132
Wright, I. P., 12
Yasin, A., 106